

IN THE CLAIMS:

The pending claims are set forth below and have been amended and/or cancelled, without prejudice, where noted:

1-12. (Cancelled)

13. (Currently Amended) A method for operating an olefin polymerization loop reactor system comprising:

introducing an olefin, a polymerization catalyst, and a diluent carrier liquid into a loop reactor, wherein the loop reactor comprises a circulating pump, a settling leg and a 180° rotating product take-off valve operably connected to the settling leg for the removal of polymer therefrom;

contacting the olefin with the polymerization catalyst in the presence of the diluent carrier liquid to form a slurry of polymer particles within the loop reactor; and

withdrawing polymer particles from the settling leg through the 180° rotating take-off valve, wherein the polymer particles are withdrawn from the settling leg at a predetermined time interval, the predetermined time interval adapted to provide for removal of substantially all polymer particles from the settling leg with substantially no removal of olefin and diluent from the loop reactor; and

maintaining the predetermined time interval by automatically controlling and adjusting air flow passing to the 180° rotating take-off valve for operation thereof, wherein the predetermined time interval is automatically controlled by a pneumatically driven double-acting actuator.

14. (New) A polymerization process comprising:

polymerizing olefin monomer in a liquid diluent to produce a liquid slurry containing polymer particles within a loop reactor, wherein the loop reactor is operably connected to a first end of a settling leg ;

allowing the polymer particles to settle in the settling leg;

periodically opening a 180 degree rotating product take-off valve disposed at a second end of the settling leg to withdraw the polymer particles from the settling leg, wherein the product take-off valve is operated by a pneumatically driven double-acting

actuator and the pneumatically driven double-acting actuator is regulated by a system comprising pneumatic control valves.

15. (New) The process of claim 14, wherein the control valves are automatic control valves.

16. (New) The process of claim 14, wherein the control valves are V-ball valves.